REMARKS

Applicant has thoroughly considered the Examiner's remarks and the application has been amended in light thereof. Claims 1, 2, 4-9, 11-16 and 18-21 are presented in the application for further examination. Claims 1, 2, 4, 7-9, 11, 14-16, 18 and 21 have been amended by this Amendment A. Claims 3, 10, and 17 have been cancelled by this Amendment A. Reconsideration of the application claims as amended and in view of the following remarks is respectfully requested. The following remarks will follow the sequence of the Office Action. The specification stands objected based on 37 CFR 1.96(c). The specification has been amended so that the computer listing contained in the file ASCIIFM on CD-ROM mailed to the PTO on June 13, 2002 is incorporated by reference in compliance with 37 CFR 1.52(e). References to the Appendix have been amended to refer to the Appendix on CD-ROM. Thus, the objection based on 37 CFR 1.96(c) may be withdrawn.

Claims 1-14 stand rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. The Examiner argues that the language of the claims "is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful and tangible result". Applicant disagrees and requests reconsideration of this rejection because claims 1 and 8 result in a practical application producing a useful and tangible result. In any case, the claims have been amended as suggested by the Examiner. In particular, claim 1 has been amended to recite a "computer-implemented system" as suggested by the Examiner. Furthermore, claim 1 is directed to system to aid an operator of an embroidery machine. Therefore, the claim relates to a technological art (embroidered fabric) and machine (embroidery machine). Claims 2, 4-7 depend on claim 1. Thus, the rejection of claims 1, 2, 4-7

based on 35 U.S.C. §101 may be withdrawn.

Furthermore, claims 1 and 8 recite "such that the one or more recommended manufacturing parameters define parameters for manufacturing the embroidery design using the embroidery machine". Therefore, the claims relate to a technological art (manufacture of an embroidery design) and machine (embroidery machine). Claims 2, 4-7,9, 11-14 depend from claims 1 and 8. Thus, the rejection of claims 1, 2, 4-9, 11-14 based on 35 U.S.C. §101 may be withdrawn.

Claims 1-14 stand rejected under 35 U.S.C. §112 as a matter of law because the claims were rejected under 35 U.S.C. §101. For the reasons stated above, the rejection under 35 U.S.C. §101 should be withdrawn and thus, the rejection under 35 U.S.C. §112 should also be withdrawn.

Before discussing the rejections based on the Chen reference, it should be noted that the Chen reference describes a software system that creates embroidery designs from original image data. (Chen, page 692, column 2, lines 7-8). Chen states that the main function of NeedlePaint is punching. (Chen, p. 692, c. 2, l. 22). The embroidery design consists of stitch data generated by punching software (NeedlePaint). (Chen, p. 692, c. 2, l. 8-9). The stitch data is generic in the sense that the same embroidery design can be used to embroider a silk fabric or a leather fabric.

Applicant, on the other hand, enables the operator of an embroidery machine to generate parameters to manufacture "a quality embroidered fabric from the embroidery design." (Spec. p. 4, l. 24-25). The manufacturing parameters disclosed by the Applicant are not stitch data but include needle type, thread weight and/or stabilizers. (Spec. p. 6, l. 31-33). These manufacturing parameters relate to the manufacture of a particular embroidered fabric (i.e. embroidery design on silk) and not stitch data.

Claims 1 and 15 stand rejected under 35 U.S.C. §102(b) as being anticipated by Chen. Applicant disagrees and submits that Chen does not disclose a selection software, analysis software or display software as recited by claims 1 and 15.

Regarding the selection software, amended claims 1 and 15 recite that the selection software is "responsive to the operator for permitting the operator to select a parameter". Thus, the operator controls the selected parameters. For example, the operator may accept defaults or modify parameters as desired. (Spec., p. 13, l. 30-32). Additionally, amended claims 1 and 15 recite that the selection software is "for defining an additional parameter from the plurality of parameters where the defined parameter is a function of the operator selected parameter".

The passage from Chen cited by the Examiner as selection software discloses how the inference engine of NeedlePaint works. The passage states "all tape-shaped regions … are found by inference and the midline … are generated automatically by the midline algorithm". (Chen, p. 695, c. 1, l. 14-17). Additionally, the inference engine is part of the stitch organizing module (Chen, p. 693, c. 1, l. 16-17) and the program performs the organizing module automatically (Chen, p. 692, c. 2, l. 27-30), thus, without operator intervention. Applicant submits that the Examiner's conclusory finding of "selection software" is without basis. In other words, the module and algorithm described in Chen do not constitute selection software that is "responsive to the operator for permitting the operator to select a parameter" and do not constitute software that is "for defining an additional defined parameter...where the defined parameter is a function of the selected parameter". Therefore, the Examiner must withdraw his rejection of independent claims 1 and 15 and dependent claims 2, 4-7, 16, 18-21 because Chen does not anticipate selection software as recited by claims 1 and 15.

Regarding the analysis software, amended claims 1 and 15

recite that the analysis software applies "the rules to the defined and selected parameters for generating one or more recommended manufacturing parameters from the plurality of parameters, where the recommended manufacturing parameter is a function of the defined parameter", so that the rules are applied to at least one of the parameters selected by the operator (using the selection software) to generate at least one recommended manufacturing parameter. (Spec., p. 11, l. 29-34).

Chen does not yield manufacturing parameters and provides only stitch data. Contrary to the claims, the Examiner cited the passage from Chen that discloses the definition of a tape-shaped region and how the mid-line of such a region may be calculated. (Chen, p. 695, c. 1, l. 6-8). The passage continues to explain that the mid-line of such a region "needs to be found so that stitches can be organized correctly". (Chen, p. 695, c. 1, l. 8-9). The passage concludes by explaining that the "mid-line of each tape-shaped region is generated automatically by the mid-line algorithm". (Chen, p. 695, c. 1, l. 15-17). Thus, this passage explains how the mid-line of a taped-shaped region is computed using an algorithm to organize the stitch data. Accordingly, this reference does not anticipate the analysis software, which generates recommended manufacturing parameters from operator defined and selected parameters using the rules in a rules base as recited in the claims. In addition, there is no teaching relating to a manufacturing parameter that is a function of the defined parameter. Therefore, the Examiner must withdraw his rejection of independent claims 1 and 15 and dependent claims 2, 4-7, 16, 18-21 because Chen does not anticipate analysis software as recited by claims 1 and 15.

Regarding the display software, claims 1 and 15, as amended, recite that the display software provides "a display corresponding to the selected and defined parameters and corresponding to the one or more recommended manufacturing

parameters". Furthermore, according to claims 1 and 15, the analysis software generates the recommended manufacturing parameters used by the display software so that the display software will display parameter information after the selected and defined parameters have been analyzed and the recommended manufacturing parameters have been generated. (Spec., Fig. 2).

But, the passage cited by the Examiner from Chen as display software refers to a generic "friendly user interface" and a figure, Figure 2. Chen does not refer to Figure 2 in the cited passage and contrary to 37 C.F.R. 1.104(c)(2)[1], the Examiner has failed to offer any explanation of how that passage and the Figure 2 relate to one another. However, on page 695 Chen refers to Figure 2, disclosing "all tape-shaped regions ... are found by inference and the midline of each tape-shaped region are generated automatically by the Midline Algorithm[1][2] as shown in Figure 2(b)". (Chen, p. 695, c. 1, l. 14-17). Thus, contrary to the Examiner's conclusion, the cited Figure 2 is not generated and displayed by the software; it is a diagram used by Chen in his paper to illustrate the mid-line found by the Mid-Line Algorithm.

Conclusively, Chen discloses that the output of his process is not displayed at all. On page 693, Chen unambiguously states that the stitch data is the result of the program and that result is stored in a specific medium so it may control an embroidery machine. (Chen, p. 693, c. 2, l. 41-44). Therefore, because the stitch data generated by NeedlePaint is stored in a specific medium and not displayed, Chen cannot anticipate the display software recited by claims 1 and 15 that displays information corresponding to the selected, defined and manufacturing parameters. Thus, the Examiner must withdraw his rejection of

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[1] "The pertinence of each reference, if not apparent, must be clearly explained ..." 37 C.F.R. 1.104(c)(2).

independent claims 1 and 15 and claims 2, 4-7, 16, 18-21 which depend thereon.

Claims 2, 9, and 16 stand rejected under 35 U.S.C. §102(b) as being anticipated by Chen. Claims 2 and 16 depend from claims 1 and 15 respectively and should be allowed for the reasons explained above regarding claims 1 and 15. Claim 9 depends from claims 8 and should be allowed for the reasons explained below regarding claim 8. Furthermore, regarding claims 2, 9, and 16, the Examiner argues that Chen anticipates that the parameter selected is from the following categories of parameters: hooping technique, stabilization technique, topping material, backing material, thread weight, thread type, needle type, needle size, embroidery density, project/fabric type, fabric thickness, fabric density, fabric stretch and design size. Applicant disagrees and submits that Chen does not anticipate selecting parameters from these categories.

The Examiner's repeated reference to the cited passage on page 695 is without merit or reason. As explained in detail above, Chen is disclosing the definition of a tape-shaped region and explaining how the mid-line algorithm finds the mid-line of such a region to aid in generating stitch data. (Chen, p. 695, c. 1, l. 6-17). This process relates to the shape of a sub-region of the design. (Chen, p. 694, c. 2, l. 45-49). On the other hand, Applicant's categories of parameters relate to the physical manufacture of the embroidered fabric and not to the shape of the embroidery design. Therefore, the Examiner's conclusory finding of the claimed "categories of parameters" is without basis. Thus, the Examiner must withdraw his rejection of claims 2, 9, and 16 because Chen does not anticipate parameters being selected from the categories claimed by Applicant.

Claims 3, 10, and 17 stand rejected under 35 U.S.C. §102(b) as being anticipated by Chen. Claims 3, 10, and 17 have been cancelled by this amendment.

Claims 4, 11, and 18 stand rejected under 35 U.S.C. §102(b) as being anticipated by Chen. Claims 4 and 18 depend from claims 1 and 15 respectively and should be allowed for the reasons explained above regarding claims 1 and 15. Claim 11 depends from claim 8 and should be allowed for the reasons explained below regarding claim 8.

Claims 5, 12, 13, and 19 stand rejected under 35 U.S.C. §102(b) as being anticipated by Chen. Claims 5, 12 and 19 depend from claims 4, 11 and 18 respectively and should be allowed for the reasons explained above regarding claims 4, 11 and 18. Claim 13 depends from claims 8 and should be allowed for the reasons explained below regarding claim 8. Furthermore, regarding claims 5, 12, 13, and 19 the Examiner argues that Chen anticipates that the embroidery machine operator may modify the defined parameter. Examiner argues that the editing disclosed in Chen provides the opportunity to modify the defined parameter. Applicant disagrees and submits that Chen does not anticipate the modification of a defined parameter by the embroidery machine operator.

While a casual reading of the passage indicates that NeedlePaint results may be edited, the detailed disclosure provided by Chen unambiguously teaches that algorithms and mathematical operators accomplish the editing. The stitch optimizing module is used to transform and edit stitch data. (Chen, p. 693, c. 1, l. 23-35). On page 695, Chen explains that in this module that "many algorithms and operators have been designed and implemented" and lists examples such as "mirroring, scaling, rotating, and reversing". (Chen, p. 695, c. 1, l. 22-24). Thus, Chen teaches that these mathematical operators and algorithms perform the editing. Most significantly, on page 692, Chen unequivocally states "automatic processing, organizing and optimizing are made possible by utilizing image processing, computer-aided design, and artificial intelligence". (Chen, p. 692, c. 1, l. 9-12). Consequently, the Chen editing process works

"automatically" utilizing "artificial intelligence" and not through the modifications input by an embroidery machine operator. Therefore, the Examiner must withdraw his rejection of claims 5, 12, 13, and 19 because Chen does not anticipate the modification of defined parameters by an embroidery machine operator.

Claims 6 and 20 stand rejected under 35 U.S.C. §102(b) as being anticipated by Chen. Claims 6 and 20 depend from claims 1 and 15 respectively and should be allowed for the reasons explained above regarding claims 1 and 15. Furthermore, regarding claims 6 and 20 the Examiner again argues that Chen anticipates the embroidery machine operator may modify the defined parameter. Further, the Examiner argues that the rules are applied to the modified parameter. Applicant disagrees and submits that Chen does not anticipate the modification of a defined parameter by the operator.

As noted above, all processing in NeedlePaint is automatic. Therefore, the editing done in the contour processing module or the stitch organizing module is done automatically, without the intervention of an embroidery machine operator. (Chen, p. 693, c. 1, l. 28-30). Therefore, if Chen cannot anticipate the editing of a parameter by an embroidery machine operator, it cannot anticipate the application of rules to such a parameter. Thus, the Examiner must withdraw his rejection of claims 6 and 20 because this reference does not anticipate the modification of defined parameters.

Claims 7, 14, and 21 stand rejected under 35 U.S.C. §102(b) as being anticipated by Chen. Claims 7 and 21 depend from claims 1 and 15 respectively and should be allowed for the reasons explained above regarding claims 1 and 15. Claim 14 depends from claim 8 and should be allowed for the reasons explained below regarding claim 8. Furthermore, regarding claims 7, 14 and 21 the Examiner argues that the knowledge base includes comments,

photographs or multimedia presentations which are the function of the selected parameter, the defined parameter, and one or more of the recommended parameters and wherein the display software displays the provided comments, photographs or multimedia presentations. Applicant disagrees and submits that Chen does not anticipate that the knowledge base contains comments, photographs or multimedia presentations and that the software displays these comments, photographs or multimedia presentations.

First, an image may be scanned into NeedlePaint, but it is input to a data structure. (Chen, p. 693, c. 2, l. 27-33). Chen discloses "four knowledge bases: the stitch pattern base, the organizing base, the bean pattern base and wave pattern base, all of which contain popular organizing knowledge and patterns." (Chen, p. 694, c. 2, l. 14-18). Thus, the knowledge base does not contain the input image, comments, photographs or multimedia presentations.

Second, Chen does not disclose that the input image is displayed. On page 692, Chen outlines the NeedlePaint process: (1) operating staff inputs the designs; (2) NeedlePaint processes, organizes and optimizes to generate stitch data automatically; and (3) NeedlePaint transforms stitch data into specific codes corresponding to specific embroidery machine. (Chen, p. 692, c. 2, l. 25-33). Additionally, Chen discloses that "stitch data is the running result" and this result is stored "in specific medium"; thus, the result is not displayed. (Chen, p. 963, c. 2, l. 41-44). Therefore, Chen does not anticipate display software that displays photographs or multimedia presentations. Nor does Chen anticipate that comments, photographs or multimedia presentation are in the knowledge base. Thus, the Examiner must withdraw his rejection of claims 7, 14, and 21.

Claim 8 stands rejected under 35 U.S.C. §102(b) as being anticipated by Chen. Applicant disagrees and submits Chen does not anticipate defining, applying and displaying as recited by

claim 8.

With regard to the definition of a parameter, the Examiner cited a passage from Chen that explains how the image processing module performs its automatic steps relating to shapes and patterns. (Chen, p. 694, c. 1, l. 17-18). The "improved Laplacian operator" disclosed by Chen is a mathematical operator[2], not an embroidery machine operator. Contrary to 37 C.F.R. 1.104(c)(2), the Examiner has failed to offer any explanation of how the image processing steps described by Chen anticipates an embroidery machine operator "defining selected and defined parameters relating to the embroidery design where the defined parameter is a function of the selected parameter".

With regard to applying the rules, the Examiner cited the passage that gives a definition for the term mid-line. As explained above, this passage is explanatory of a term of art, and is not a parameter defined by the embroidery machine operator. Thus, Chen does not anticipate "applying the rules to the selected and defined parameters."

With regard to generating one or more recommended manufacturing parameters, the Examiner is once again citing the passage describing the mid-line algorithm. As explained above, this is an algorithm operating on a tape-shaped region, not a rule in a rules base. Thus, Chen does not anticipate "generating one or more recommended manufacturing parameters as a function of the application of the rules to the defined parameter."

With regard to displaying the parameters, the Examiner is citing the passage describing the mid-line algorithm. As explained above, this is an algorithm for computing the mid-line of a tape-shaped region. Figure 2 is not displayed to an embroidery machine operator; it is merely illustrative of a mid-

[2] See Eric W. Weisstein. "Laplacian." From MathWorld--A Wolfram Web Resource. http://mathworld.wolfram.com/Laplacian.html.

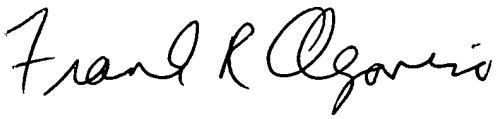
line found by the algorithm. Contrary to 37 C.F.R. 1.104(c)(2), the Examiner has failed to offer any explanation of how Chen's disclosure of this algorithm anticipates "displaying the selected and defined parameters and the one or more recommended manufacturing parameters."

Therefore, Chen does not anticipate defining, applying and displaying as recited by claim 8. Thus, the Examiner must withdraw his rejection of independent claim 8 and claims 9, 11-14 which depend thereon.

CONCLUSION

It is felt that a full and complete response has been made to the Office action and, as such, places the application in condition for allowance. Such allowance is hereby respectfully requested. If the Examiner feels, for any reason, that a personal interview will expedite the prosecution of this application, he is invited to telephone the undersigned.

Respectfully submitted,



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